

AUTHOR: Kozlov, F. Ya., Kuznetsov, V. Ya. 3 7 1971 27

TITLE: III. On the Formation of the Complex Irides of Univalent Thallium in Solutions (III. Ob obrazovanii v rastvorakh kompleksnykh yedinykh univalemta s talloya).

PERIODICAL: Zhurnal neorganicheskoy khimii, 1971, V. 16, No. 1, pp. 24-30 - 7 refs. - 200 R

ABSTRACT: The composition and the stability constants of the complexes of the thallium(I) ions with various ligands were investigated. The stability constants were determined in the temperature range 20-40°C. The stability constants of 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000, 1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1090, 1100, 1110, 1120, 1130, 1140, 1150, 1160, 1170, 1180, 1190, 1200, 1210, 1220, 1230, 1240, 1250, 1260, 1270, 1280, 1290, 1300, 1310, 1320, 1330, 1340, 1350, 1360, 1370, 1380, 1390, 1400, 1410, 1420, 1430, 1440, 1450, 1460, 1470, 1480, 1490, 1500, 1510, 1520, 1530, 1540, 1550, 1560, 1570, 1580, 1590, 1600, 1610, 1620, 1630, 1640, 1650, 1660, 1670, 1680, 1690, 1700, 1710, 1720, 1730, 1740, 1750, 1760, 1770, 1780, 1790, 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100, 2110, 2120, 2130, 2140, 2150, 2160, 2170, 2180, 2190, 2200, 2210, 2220, 2230, 2240, 2250, 2260, 2270, 2280, 2290, 2300, 2310, 2320, 2330, 2340, 2350, 2360, 2370, 2380, 2390, 2400, 2410, 2420, 2430, 2440, 2450, 2460, 2470, 2480, 2490, 2500, 2510, 2520, 2530, 2540, 2550, 2560, 2570, 2580, 2590, 2600, 2610, 2620, 2630, 2640, 2650, 2660, 2670, 2680, 2690, 2700, 2710, 2720, 2730, 2740, 2750, 2760, 2770, 2780, 2790, 2800, 2810, 2820, 2830, 2840, 2850, 2860, 2870, 2880, 2890, 2900, 2910, 2920, 2930, 2940, 2950, 2960, 2970, 2980, 2990, 3000, 3010, 3020, 3030, 3040, 3050, 3060, 3070, 3080, 3090, 3100, 3110, 3120, 3130, 3140, 3150, 3160, 3170, 3180, 3190, 3200, 3210, 3220, 3230, 3240, 3250, 3260, 3270, 3280, 3290, 3300, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3380, 3390, 3400, 3410, 3420, 3430, 3440, 3450, 3460, 3470, 3480, 3490, 3500, 3510, 3520, 3530, 3540, 3550, 3560, 3570, 3580, 3590, 3600, 3610, 3620, 3630, 3640, 3650, 3660, 3670, 3680, 3690, 3700, 3710, 3720, 3730, 3740, 3750, 3760, 3770, 3780, 3790, 3800, 3810, 3820, 3830, 3840, 3850, 3860, 3870, 3880, 3890, 3900, 3910, 3920, 3930, 3940, 3950, 3960, 3970, 3980, 3990, 4000, 4010, 4020, 4030, 4040, 4050, 4060, 4070, 4080, 4090, 4100, 4110, 4120, 4130, 4140, 4150, 4160, 4170, 4180, 4190, 4200, 4210, 4220, 4230, 4240, 4250, 4260, 4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350, 4360, 4370, 4380, 4390, 4400, 4410, 4420, 4430, 4440, 4450, 4460, 4470, 4480, 4490, 4500, 4510, 4520, 4530, 4540, 4550, 4560, 4570, 4580, 4590, 4600, 4610, 4620, 4630, 4640, 4650, 4660, 4670, 4680, 4690, 4700, 4710, 4720, 4730, 4740, 4750, 4760, 4770, 4780, 4790, 4800, 4810, 4820, 4830, 4840, 4850, 4860, 4870, 4880, 4890, 4900, 4910, 4920, 4930, 4940, 4950, 4960, 4970, 4980, 4990, 5000, 5010, 5020, 5030, 5040, 5050, 5060, 5070, 5080, 5090, 5100, 5110, 5120, 5130, 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5(4)

AUTHORS.

Kul'ba F Ya Mironov V Ia SOV/7P 4 4 9/4;

TITLE

Complex Compounds of Trivalent Thallium With 2,2'-Dipyridyl
(Kompleksnyye soyedineniya trekhvalentnogo talliya s 2,2'-dipiridilom)

PERIODICAL

Zhurnal neorganicheskoy khimii 1959 Vol 4 Nr 4 pp 261-264
(USSR)

ABSTRACT

The complex compounds of thallium nitrate with two and three molecules of 2,2'-dipyridyl were prepared as colorless easily soluble salts. The solubility of the first compound in water at 25°C is 0.09-0.01 mol/l. The molecular electric conductivity of the first compound at pH 3.5 is 382 ohm⁻¹ while that of the complex thallium compound with three molecules of 2,2'-dipyridyl is 378 ohm⁻¹. The electric conductivity in aqueous solution shows that the compounds dissociate into 4 ions and have the structures $[TlDp_2](NO_3)_3$ and $[TlDp_3](NO_3)_3$. To determine the stability of the complex ion $TlDp_3^{3+}$ the redox potential was investigated. The general stability constant of the $TlDp_3^{3+}$ ion was determined using the

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2-2'-Dipyridyl

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following equation:
$$K_{TlDp_3} = \frac{[Tl^{3+}][Dp]^3}{[TlDp_3]} = (5 \pm 1) \cdot 10^{-10}$$

The synthesis of the complex compound with 3 molecules of 2-2'-dipyridyl was carried out by dissolving $[TlDp](NO_3)_3$ in a solution of 2-2'-dipyridyl. Finally, the compound formed was precipitated with a saturated solution of 2-2'-dipyridyl in diethyl ether. The yield with this method is 85-95 %. The nature of the exchange of $[TlDp_2](NO_3)_3$ with potassium halides and sodium perchlorate was investigated. The experiments show that potassium chloride and sodium perchlorate cause the $[TlDp_2](NO_3)_3$ to precipitate as the complex compounds $[TlDp_2](ClO_4)_3$ and $TlDp_2Cl_3$. Potassium bromide causes $[TlDp_2](NO_3)_3$ to form the complexes $TlDp_2Br_3$ and $TlDpBr_3$. Potassium iodide causes the complex $[TlDpJ_2]J$ to form. A table gives the compositions of the solutions whose redox potentials were investigated.

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2-2' Dipyridyl

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There are 1 table and 5 references. 1 of which is Soviet

ASSOCIATION Leningradskiy tekhnologicheskii institut im. Lensovet
(Leningrad Technological Institute imeni Lensovet); Kafedra
neorganicheskoy khimii (Chair of Inorganic Chemistry)

SUBMITTED January 15 1958

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5(2)

AUTHORS: Kul'ba, F. Ya, Mironov, V. Ye.

SOV/78-4-6-30/44

TITLE: Complex Compounds of Trivalent Thallium With 1-10-Phenanthroline (Kompleksnyye soyedineniya trekhvalentnogo talliya s 1-10-fenantrolinom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1393 - 1397 (USSR)

ABSTRACT: 13 complex compounds of thallium with 1-10-phenanthroline and one complex with 2-2-dipyridil were isolated and the products analyzed. The analysis results of these compounds are summarized in table 1. In the case of an interaction between the aqueous solution $TlPh_n(NO_3)_3$ ($n=2$ or 3) and a potassium iodide solution it was found that one iodine ion displaces one or two molecules 1-10-phenanthroline and precipitates a compound of the composition $[TlPhJ_2]J$. The solubility of $TlPhJ_3$ in water, alcohol, and especially in aqueous solution of potassium iodide is low. The solubility amounts in water at 25° to $3 \cdot 10^{-5}$ mol/l and in alcohol to 10^{-4} mol/l. $TlPhJ_3$

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1-10-Phenanthroline

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can be used for the quantitative determination of thallium. The electric conductivity of the following thallium aminates was carried out in aqueous solutions: $[\text{TlPh}_2](\text{NO}_3)_3$, $[\text{TlPh}_3](\text{NO}_3)_3$, $[\text{TlPh}_2\text{Cl}_2]\text{NO}_3$, $[\text{TlPh}_2\text{Cl}_2]\text{NO}_3$, $[\text{TlPh}_2\text{Cl}_2]\text{NO}_3$, $[\text{TlDp}_2\text{Cl}_2]\text{NO}_3$, $[\text{TlDp}_2\text{Cl}_2]\text{NO}_3$, $[\text{TlDp}_2\text{Cl}_2]\text{NO}_3$. The results are given in table 3. There are 3 tables and 4 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet (Leningrad Technological Institute imeni Lensovet) Kafedra neorganicheskoy khimii (Chair of Inorganic Chemistry)

SUBMITTED: March 1, 1958

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S/186/60/002/002/019/022
E071/E433

AUTHORS: Grinberg, A.A. and Mironov, V.Ye.

TITLE: On the exchange of additives in ions HgH_4^{2-}
(H^- - Cl^- , Br^- , J^- , SCN^-)

PERIODICAL: Radiokhimiya, 1960, Vol.2, No.2, pp.249-254

TEXT: It is known that the velocity of exchange of additives in complex compounds of divalent platinum depends mainly on the nature of coordinated groups and noticeably increases in the following series of anions - additives: Cl^- , Br^- , J^- , CN^- . As the stability of complex ions of the type PtX_4^{2-} (X^- - Cl^- , Br^- , J^- , SCN^- , CN^-) in the first approximation is similar to that of HgX_4^{2-} , the authors thought it would be of interest to investigate the exchange in the systems HgH_4^{2-} - H^- (H^- - Cl^- , Br^- , J^- , SCN^-) for which there are no sufficient literature data. The investigation was done using radioactive isotopes of Cl^{36} , Br^{82} , Jl^{131} , S^{35} . The experimental procedure was to place a given volume of 0.04 M aqueous solutions of $\text{K}_2 [\text{HgH}_4]$ in to one compartment of a flask with a ω shaped bottom, and in the other compartment an equal volume of a 0.16 M solution of KH . After obtaining a

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On the exchange of additives ...

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temperature of $25^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$, the solutions were mixed in 2 to 3 sec. Immediately after mixing, or after given time intervals, 1.2 to 2 times excess of a precipitant $[\text{Pt}(\text{NH}_3)_4]\text{Cl}_2$, $[\text{Pt}(\text{NH}_3)_4](\text{NO}_3)_2$ or $[\text{Ni}(\text{en})_3]\text{SO}_4$ (en = ethylenediamine) was introduced. The precipitate formed was filtered off, washed to a constant activity of the filtrate and dried at 80 to 90°C for 30 to 50 minutes. The activity of the dried precipitates was determined in accurately weighed samples dissolved in appropriate solvents. The experiments were also repeated at 2°C and in the presence of oxidants and using dark vessels. It was found that at 25°C and a pH = 5.6, a complete exchange of additives takes place in 3 to 5 sec. Lowering the temperature to 2°C and carrying out the experiments in aqueous alcoholic (50/50) solutions or in the presence of potassium permanganate did not noticeably decrease the velocity of exchange. A high velocity of exchange in all the mercury systems studied did not permit establishing any dependence of the velocity of exchange on the nature of the coordinated groups. It was also found that the solubility of $[\text{Pt}(\text{NH}_3)_4][\text{HgCl}_4]$ in water at 25°C equals 2.6×10^{-3} mole/l and of $[\text{Ni}(\text{en})_3][\text{HgCl}_4]$ at Card 2/3

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E071/E433

18°C is about 1.2×10^{-2} mole/l. There are 2 tables and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The references to English language publications read as follows:
A.M.Adamson, J.P.Welker, M.Volpe, J.Am.Chem.Soc., 72, 4030 (1950);
R.L.Rich, H.Taube, J.Phys.Chem., 58, 1, 1 (1954).

SUBMITTED: July 4, 1959

Card 3/3

GRINBERG, A.A.; MIRONOV, V. Ye.

Exchange of addends in HgI_4^{2-} ions. Radiokhimiia 2 no.6:246-254
'60. (MIRA 14:4)

(Mercury compounds)

68223

5.2620
5(2)

AUTHORS: Kul'ba, F. Ya., Mironov, V. Ye. S/076/50/CC5/01/001, 045
B004/B016

TITLE: The Influence Exercised by the Cations of Alkali Metals Upon
Composition and Stability of the Ions $[Tl(CNS)_n]^{n-}$

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, No 5, pp 107-109
(USSR)

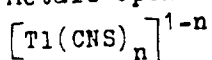
ABSTRACT: The authors investigated the solubility of Tl halides in concentrated solutions of halides of alkali- and alkaline-earth metals in previous papers (Refs 1-4), and found a considerable influence of the nature of the cation upon the solubility. They denoted this phenomenon as the influence of the cation of the outer sphere, and established the order of the alkali- and alkaline-earth cations, in which stability and coordination number of the complex compounds $TlHal_n^{n-}$ increase. In the present paper, the same phenomena were investigated in thallium thiocyanates in solutions of Li-, Na-, K-, and Cs-thiocyanate at 25° and concentrations of 0.1 - 9.69 N. In dilute solutions of alkali thiocyanate, the solubility of $TlCNS$ decreases in the order $CsCNS > KCNS > NaCNS > LiCNS$, reaches a minimum at $F = 0.1$.

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68223

The Influence Exercised by the Cations of Alkali
Metals Upon Composition and Stability of the Ions

S/076/60/003/01, 004/045
B004/B016



and increases rapidly with increasing concentration of the alkali thiocyanate. In this connection, a reversal of the effect of the alkali thiocyanates occurs since in the range of 5 - 8 N the solubility of $TlCNS$ in $LiCNS$ is highest, and decreases in the order: $LiCNS$, $NaCNS$, $KCNS$, $CsCNS$. The influence exercised by the cation of the outer sphere upon the complex formation cannot be explained merely by the change in the activity coefficient. In table 2, the solubility of $TlCNS$ in 1 - 8 N $NaCNS$ at constant ionic strength is given, and the specific influence of the ions ClO_4^- and NO_3^- used for the maintenance of the ionic strength is outlined. Table 3 gives the calculated instability constants. On the strength of the experiments and data in publications, table 4 presents the instability constants of the complexes TlA_n^{1-n} in the presence of Na as the cation of the outer sphere ($A = CN^-, F^-, Cl^-, Br^-, J^-, CNS^-, \frac{1}{2}S_2O_3^{2-}$). The stability of the complex compounds increases in the order $F^- < CN^- < Cl^- < Br^- < CNS^- < J^- < \frac{1}{2}S_2O_3^{2-}$.

Card 2/3

68223

The Influence Exercised by the Cations of Alkali
Metals Upon Composition and Stability of the Ions

S/OTC/1.0/COE, OL/COE/COE
BOC4/BOC

$[Tl(CNS)_n]^{1-n}$

In the tables 5-7, the instability constants K^v at varying ionic strength and K^{st} at constant ionic strength for the ions $[Tl(CNS)_n]^{1-n}$, $TlBr_n^{1-n}$, and TlJ_n^{1-n} are compared with each other where the relation is defined by the equation:
 $K^{st} = K^v \cdot C_n$. C_n is found to have the constant value 4.1 ± 0.2 , irrespective of the nature of the anion. There are 7 tables and 10 references, 8 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskij institut im. Lensovet Katedra neorganicheskoy khimii (Leningrad Technological Institute im. Lensovet, Chair of Inorganic Chemistry)

SUBMITTED: September 26, 1958

Card 3/3

KUL'BA, F.Ya.; MIRONOV, V.Ye.

Stability of the ions $TlBr_n^{1-n}$ and TlI_n^{1-n} . Zhur. neorg. khim.
5 no.8:1898-1899 Ag '60. (MIRA 13:9)

1. Leningradskiy tekhnologicheskoy institut im. Lensovet.
Kafedra neorganicheskoy khimii.
(Thallium bromide) (Thallium iodide)

KUL'BA, F. Ya.; MAKASHEV, Yu.A.; MIRONOV, V. Ye.

Complex formation of trivalent thallium with 1,10-phenanthroline and 2,2'-dipyridyl. Zhur. neorg. khim. 6 no.3:630-635 Mr '61.
(MIRA 14:3)

1. Leningradskiy tekhnologicheskii institut imeni Lensev-ta.
(Thallium compounds) (Bipyridine)
(Phenanthroline)

MIRONOV, V. Ye.

Complex formation of lead (II) with chloride with nitrate ions.
Zhur. neorg. khim. 6 no.3:659-663 Mr '61. (MIRA 14:3)
(Lead compounds)

MIRONOV, V.Ye.

Effect of alkali metal cations on the complex formation of Pb^{2+}
with Br^- . Zhur.neorg.khim. 6 no.4:897-903 Ap '61.
(MI A 14:4)

1. Leningradskiy tekhnologicheskii institut imeni Leningrada,
Kafedra obshchey khimii.

(Lead compounds)



KUL'BA, F.Ya.; MAKASHEV, Yu.A.; MIRONOV, V.Ye.

New complex aminates of trivalent thallium. Zhur.neorg.khim. 6
no.6:1481-1483 Je '61. (MIRA 14:11)

1. Leningradskiy tekhnologicheskoy institut im. Lensovetu,
Kafedra neorganicheskoy khimii.

(Thallium compounds)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; FEDOROV, V.A.

Complex formation of monovalent thallium with alkali metal chlorides. Zhur. neorg. khim. 6 no.7:1586-1591 J1 '61.

(MIRA 14:7)

1. Leningradskiy tekhnologicheskij institut imeni Lensovetu, kafedra obshchey khimii.

(Thallium compounds) (Alkali metal chlorides)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; KHVOSTOVA, L.B.

Principle of additivity and the series of cationic effect.
Zhur.neorg.khim. 6 no.8:1861-1864 Ag '61. (MIRA 14:8)

1. Leningradskiy tekhnologicheskij institut imeni Lensovet, kafedra
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KUL'BA, F.Ya.; MIRONOV, V.Ye.; TRITSKAYA, G.S.; MAKSIMOVA, N.G.

Complexing of bivalent lead with sodium bromide. Zhur.neorg.khim.
6 no.8:1865-1867 Ag '61. (MIRA 14:8)

1. Leningradskiy tekhnologicheskii Institut imeni Lensoвета kafedra
obshchey khimii.

(Lead compounds) (Sodium bromide)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; PAVLOV, V.N.

Effect of alkali metal cations on the formation in solutions of
hydroxy complexes of bivalent lead. Zhur.neorg.khim. 6 no.12:
2814-2815 D '61. (MIRA 14:12)
(Lead compounds) (Alkali metals)

MIRONOV, V.Ye.

Radiochemical data on the solubility of silver chloride.

Radiokhimiia 4 no.6:707-711 '62.

(MIRA 16:1)

(Silver chloride) (Solubility) (Silver—Isotopes)

MIRODOV, V.Ye.; NAZAROV, V.A.

Certain considerations concerning the effect of outer-sphere
cations on complex formation in solutions. Zhur.neorg.khim.
7 no.9:1281-1282 S '62. (MIRA 1:9
(Cations) (Complex compounds)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; ROZHANOVSKAYA, L.P.

New compounds of trivalent thallium halides with 3,3'- and
4,4'-dipyridyl. Zhur.neorg.khim. 7 no.10:2320-2322 09'62.
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1. Leningradskiy tekhnologicheskii institut imeni Lensoвета,
kafedra obshchey khimii. (Thallium compounds) (Bipyridine)

MIRONOV, V.Ye.; LASTOCHKIN, Yu.V.; FEDOROV, V.A.

Effect of "outer-sphere" cations on the formation of mercury (II)
chloride complexes. Zhur.neorg.khim. 7 no.10:2323-2325 G '62.
(MIRA 15:10)

(Mercury compounds)

MIRONOV, V.Ye.; FEDOROV, V.A.

Problem of the formation of luteo chloride associated
compounds. Zhur.neorg.khim. 7 no.11:2524-2527 N '62.

(MIRA 15:12)

1. Leningradskiy tekhnologicheskii institut imeni
Lensovetu.

(Cobalt compounds)
(Coordination compounds)

FEDOROV, V.A.; MIRONOV, V.Ye.; KUL'BA, F.Ya.

Luteo chloride associated compounds. Zhur.neorg.khim.
7 no.11:2528-2533 N '62. (MIRA 15:12)
(Cobalt compounds)
(Coordination compounds)

MIRONOV, V.Ye.

Solubility of silver halides and thallium (I) iodide in
aqueous solutions of similar alkali metal salts. Zhur.neorg.khim.
7 no.11:2630-2631 N '62. (MIRA 15:12)

1. Leningradskiy tekhnologicheskii institut imeni Leningrada,
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(Silver halides) (Thallium iodide) (Solubility)

MIRONOV, V.Ye.

Radiochemical investigation of the solubility of silver
halides and their analogy with monovalent thallium halide.
Radiokhimiia 5 no.1:118-125 '63. (MIRA 16:2)
(Silver halides) (Silver isotopes)
(Solubility)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; TSUN TSZIN'-YAN [TS'ung Chin-yang]; FILIPPOVA, Z.G.

Electricity conductivity of some aminates of trivalent thallium in nitrobenzene solutions. Zhur.neorg.khim. 8 no.3:672-675 Mr '63.
(MIRA 16:4)

1. Leningradskiy tekhnologicheskii institut imeni Lenzoveta, kafedra obshchey khimii.
(Thallium compounds—Electric properties) (Amines)
(Nitrobenzene)

MIRONOV, V. Ye.

Effect of outer-sphere cations on complex formation in solutions. Zhur.
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1. Leningradskiy tekhnologicheskii institut imeni Lensovetu.
(Complex compounds) (Cations)

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Compounds formed by trivalent thallium with pyridine and
quinoline. Zhur.neorg.khim. 8 no.4:911-915 Ap '63. (MIRA 16:3)
(Thallium compounds) (Pyridine) (Quinoline)

MIROMOV, V.Ye.; KUL'BA, F.Ya.; NAZAROV, V.A.

Effect of outer-sphere cations on complex formation between
cadmium and chlorine ions. Zhur.neorg.khim. 8 no.4:916-922
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1. Leningradskiy tekhnologicheskiy institut imeni Lensovet,
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Effect of outer-sphere cations on the formation of nitrate complexes
of lead (II). Zhur.neorg.khim. 8 no.5:1161-1164 My '63.
(MIRA 16:5)

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ROZHANOVSKAYA, L.P.

Complex compounds of thallium triiodides with 1,10-phenanthroline. Zhur. neorg. khim. 8 no.6:1400-1401 Je '63.
(MIRA 16:6)

1. Leningradskiy tekhnologicheskij institut imeni Lensovetu,
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(Thallium compounds)
(Phenanthroline)

KUL'BA, Fedor Yakovlevich; MIKHONOV, Viktor Yevgen'yevich; SEME,
Ye.I., red.; EMLIKH, Ye.Ya., tekhn. red.

[Chemistry of thallium; complex compounds] Khimiia tallia;
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206 p. (MIRA 10:12)
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Compounds of trivalent thallium with 4,7-phenanthroline.
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Potentiometric study of the chloride complexes of bismuth. Zhur.
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Effect of alkali metal cations on the formation of the chloride complexes of cadmium. Zhur. neorg. khim. 8 no.8:1257-1261 (MIRA 16:8)
Ag '63.

1. Leningradskiy tekhnologicheskii institut imeni Lensovetu,
kafedra neorganicheskoy khimii. (Alkali metals)
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MIRONOV, V. Ye. FEDOROV, V. A., NAZAROV, V. A.

STABILITY OF THE SYSTEM OF THE CONTROL OF THE MOTION OF THE OBJECTS OF THE CONTROL (MIRA 1981)
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Effect of alkali metal addition on the formation of the organo-
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complexes of bismuth. Zhur. neorg. khim. 8 no.10:2318-2322 0 '63.
(MIRA 16:10)

1. Leningradskiy tekhnologicheskii institut, kafedra obshchey
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(Alkali metals) (Bismuth compounds)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; ANDREYEVA, O.S.

Complex compounds of thallium (III) with organic amines. Zhur.
neorg. khim. 8, no. 10: 2323-2325 0 '63. (MIRA 16:10)

(Thallium compounds) (Amines)

KUL'BA, F.Ya.; MIRONOV, V.Ye.; ANAN'YEVA, L.A.

Complex compounds of monovalent thallium with 1,10-phenanthroline.
Zhur. neorg. khim. 8 no.10:2326-2328 0 '63. (MIRA 16:10)

1. Leningradskiy tekhnologicheskij institut im. Lensoveta.
(Thallium compounds) (Phenanthroline)

MIRONOV, V.Ye.; KUL'BA, F.Ya.; FEDOROV, V.A.; TIKHOMIROV, O.B.

Effect of the anionic background on the formation of bromide complexes of bivalent lead. Zhur. neorg. khim. 8 no.11:2524-2528 N '63.

Effect of the anionic background on the formation of chloride and nitrate complexes of lead (II). Ibid.:2536-2540 (MIRA 17:1)

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MIRONOV, V.Ye.; FEDOROV, V.A.

Complex formation of lead (II) with alkali metal chlorides.
Zhur. neorg. khim. 8 no.11:2529-2535 N '63. (MIRA 17:1)

1. Leningradskiy tekhnologicheskii institut imeni Lensovet, kafedra obshchey khimii.

MIROMON, V. Ye.; KUL'BA, F. Ya.; FERGUSON, V.A.

Effect of additions of alkali metal salts of earth metals on
complex formation in aqueous solutions. Zhur. no. 10. chin.
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1977.6:1487-1489. No. 1, 2

1. Determined by the method of the authors, the authors, the authors,
the authors, the authors, the authors.

L 24773-65

8/0113/64/000/004/0003/0004

ACCESSION NR: AP5001134

AUTHOR: Brail'chuk, P.L., (Candidate of technical sciences) Mironov, Ye. A., Brail'chuk, P.L.

TITLE: The power and economy of ZIL-130 engines at low air density

SOURCE: Avtomobil'naya promyshlennost', no. 4, 1964, 3-4

TOPIC TAGS: internal combustion engine, gasoline engine, engine power, high altitude performance, engine economy/ZIL engine

ABSTRACT: The climatic and road conditions in the Soviet Union vary greatly. This is also true in relation to other countries using trucks exported from the Soviet Union. In addition, changes in truck design are required for operation in mountainous regions. In 1962, the Moskovskiy Avtozavod imeni Likhachova (Moscow Automobile Factory) and the Kafedra avtomobil'nogo transporta Tadzhikskogo politekhnicheskogo instituta (Department of Automotive Transportation of the Tadzhik Polytechnical Institute) performed field tests with two modified ZIL-130 trucks on a high plateau in the Pamir Mountains. A hydraulic brake on an OT-6 testing stand was mounted on the truck instead of the usual body. During operation, the hydraulic brake was connected with the drive shaft. The elevation of the

Cord 1/2

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ACCESSION NR: AP5001134

plateau was 4850 m above seal level with an atmospheric pressure of 430 mm Hg. Other tests were made at elevations of 4000, 3000 and 2000 m above sea level. The maximum torque dropped to 14.3 kg-m (from 27.8 kg-m at 4800 m), while only 51.5% of the maximum torque was preserved at 2000 m above sea level. The engine power at 4800 m was 49 h.p., this being 49.5% of the maximum value. The tests showed that engine horsepower dropped 12.5% for every 1000 m of increase in elevation above sea level. The combustion of fuel also dropped significantly at elevations up to 4800 m above sea level. The specific fuel consumption thus increases by 40-45% at 4800 m due to incomplete combustion. The regular fuel supply equipment must be replaced or adjusted when the engine runs at elevations higher than 2500 m above sea level. Due to the loss of engine power (up to 50%), trucks working at high elevations should have a lower rated load carrying capacity. Orig. art. has: 3 figures.

ASSOCIATION: Takshikskiy politekhnicheskii institut (Tadjik Polytechnical Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: PR

NO REF SOV: 000

OTHER: 000

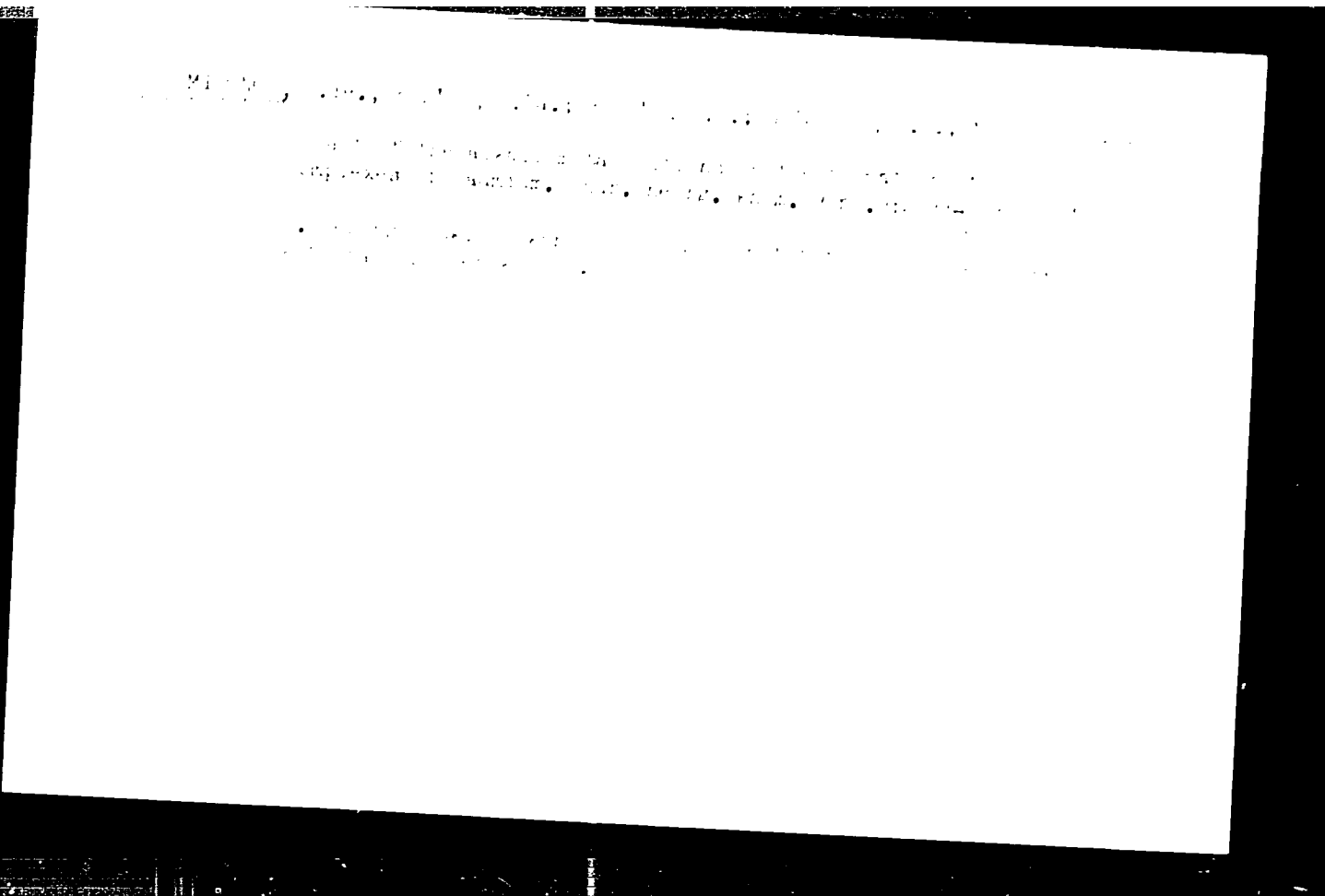
Card

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Diffusion potentials. Zhur. neorg. khim. 9 no.3:718-723
Mr '64. (MIRA 17:3)

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MITRONOV, V.Ye.; KIL'DA, P.Yu.; FEDOROV, V.I.; FEDOROVA, A.V.

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2138-2141 1964. (NIPA 1711)

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9 No. 10: 488-490 1980.

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Hydrolysis . trivalent thallium salts. Zhur. neorg. khim. 9
no.11:2573-2577 N '64 (MIRA 18:1)

MIKONOV, V.Ye.; KUL'BA, F.Ye.; FEDOROV, V.A.

Chloride complexes of lead and their reaction with alkali metal cations. Zhur.neorg.khim. 10 no.4:914-917 Ap '65.

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1. Leningradskiy tekhnologicheskii institut imeni Leningra, kafedra obshchey khimii.

MIRONOV, V.Ye.; RUTKOVSKIY, I.O.

Distribution of iron (III) between aqueous solutions of
salts and ether. Zhur. neorg. khim. 10 no.5:1069-1074 My '65.
(MIRA 18:6)

Leningradskiy tekhnologicheskii institut imeni Lensoвета,
kafedra neorganicheskoy khimii.

MIRONOV, V.Ye.; LASTOVKINA, N.P.

Stability of polybromide ions. Zhur. neorg. khim. 10 no.5:
1082-1087 My '65. (MIRA 18:6)

1. Leningradskiy tekhnologicheskii institut imeni Lenzoveta,
kafedra obshchey khimii.

1. The first of the two main points of the report is that the

information is reliable and that the source is trustworthy.

2. The second point is that the information is of great value to the

KUL'BA, F.Ya.; MIRONOV, V.Ye.; MRNYAKOVA, G.

Complex thiocyanates of univalent thallium. Zhur. neorg. khim.
10 no.6:1393-1398 Je '65. (MIRA 18:6,

KHILIA, A.YA., YAROVITZ, YU.YA., ALFONOV, A.YA.

Interdepartmental group of scientific and technical
staff. Inst. of Phys. Chem. USSR Acad. Sci. 1964-1965.
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Institute of Chemical Physics.

KUL'BA, F.Ya.; MIRONOV, V.Ye.; MAVRIN, I.F.; YAKOVLEV, Yu.B.

Thermodynamics of the formation of univalent thallium associates.
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10 no.12:2670-2674, 1974, 1 p. (USSR 1974)

KUL'BA, F.Ya.; MIRONOV, V.Ya.; MAVRIN, I.F.

Thermodynamics of the $AlCl_3$ chloride complexes. *Dokl. Akad. Nauk SSSR*.
36 no.10:2595-2599 1975. (MIRA 18:11)

Leningradskiy tekhn. univ. imeni Lomonosova.
Submitted July 11, 1974.

USSR / General and Special Zoology. Insects.
Systematics and Faunistics.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54246.

P

Author : ~~Mironov, Ya. A.~~

Inst : Not given.

Title : Butterfly Collection of the Stavropol' Regional
Museum, Gathered in the Environs of the Arkhyz and
Teberda Settlements.

Orig Pub: Materialy po izuch. Stavropol'sk. kraya. Vyp. 8,
1956, 255-261.

Abstract : This is a catalog of 88 species of butterflies
(Rhopalocera) collected over a period of 25 years
(2458 specimens) in the high mountain regions of
the Stavropol'skiy Kray.

Card 1/1

MIRONOV, YE. A.

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BOOK EXPLOITATION

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Akademiya nauk SSSR. Institut geografii

Division of the territory of the U.S.S.R. into districts according to basic erosion factors (Rayonirovaniye territorii SSSR po osnovnym faktoram erozii) Ed. by D. L. Armand. Moscow, Izd-vo "Nauka", 1965. 233 p. illus., biblio. 1500 copies printed.

TOPIC TAGS: soil science, underground water, erosion, geograpical regionalization
12,55

PURPOSE AND COVERAGE: This book was compiled by staff members of the Institute of Geography, Academy of Sciences USSR, under the direction of S. I. Sil'vestrov. It deals with the regionalization of the USSR on the basis of the main factors of soil erosion. The most important principle in regionalization was the determination, characterization, and evaluation of the geographic conditions in connection with the process of erosion and the countermeasures. Therefore, the regionally defined units (phytoclimatic zones, low-land and mountainous provinces, agricultural regions) made it

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AM5023906

possible to classify the territory consistently, not only on the basis of the forms of erosion, but also by the type of necessary antierosion measures. The book is intended for scientific workers and specialists in agriculture, forestry, and water management, as well as for teachers and students in these fields. There are 133 references, all Soviet.

TABLE OF CONTENTS:

(Foreword) S. I. Sil'vestrov -- 3

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Principles, plan, and network of regionalization. S. I. Sil'vestrov -- 11

Zones and provinces. S. I. Sil'vestrov -- 20

Agricultural regions. S. I. Sil'vestrov -- 38

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AM5023906

Comparative evaluation of the effect of basic factors on erosion.
S. I. Sil'vestrov -- 58

Characterization of regions by basic natural and economic conditions.
Ye. N. Lisichek, Ye. A. Mironov, S. I. Sil'vestrov, and N. M.
Stupina -- 88 55

Bibliography -- 230

SUB CODE: ES

SUBMITTED: 17Apr65

NO REF SOV: 135

OTHER: 000

Card 3/3

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ACC NR: AP6002181

(A)

SOURCE CODE: UR/0146/65/008/006/0114/0117

AUTHOR: Brail'chuk, P. L.; Brail'chuk, P. L.; Mironov, Ye. A.

ORG: Tadzhik Polytechnic Institute (Tadzhikskiy politekhnicheskiy institut)

TITLE: Automatic fuel-consumption recorder

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 6, 1965, 114-117

TOPIC TAGS: flow meter, flow recorder, fuel consumption

ABSTRACT: Development is reported of a gasoline flowmeter for measuring and recording small fuel flows (1-30 cm³ ?) and intended for testing automobile engines under transient operating conditions. A two-chamber piston-type flowmeter of rather conventional design has electric contacts at both ends of the cylinder. Each contact closes a circuit and thereby energizes electromagnets EM which control the operation of multiway valve V. Simultaneously, relays R operate and send pulses to a counter and (if necessary) to a recorder. The meter was tested for two years. Its claimed error is 1-1.5%. Orig. art. has: 2 figures.

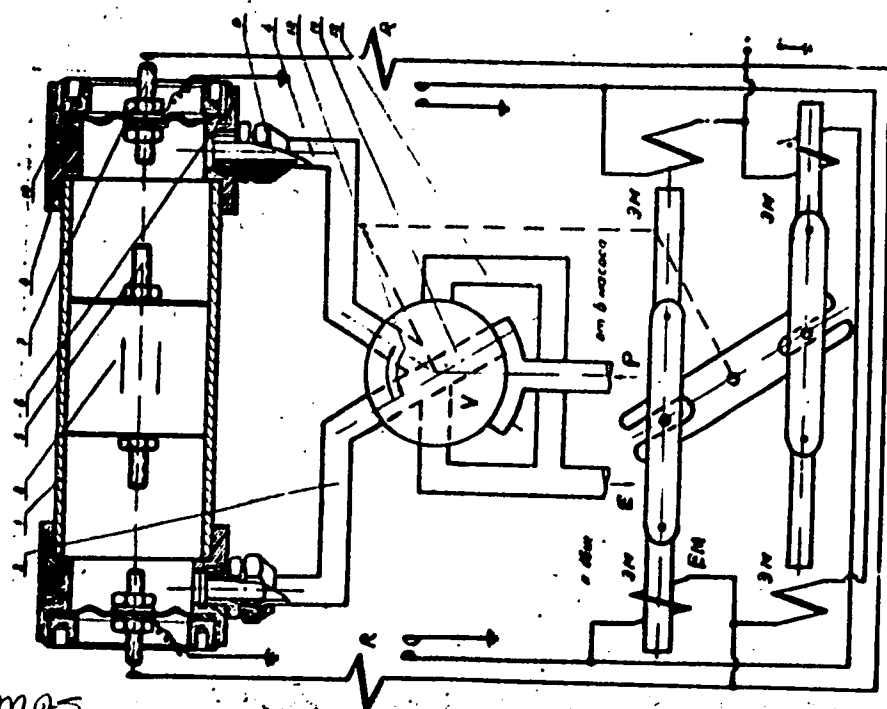
SUB CODE: 13 / SUBM DATE: 03Feb64

Card 1/2

UDC: 681.121

L 18555-66

ACC NR: AP6002181



Small-capacity gasoline flowmeter

Card 2/2 mgs

L 25970-66

ACC NR: AP6006515 (A) SOURCE CODE: UR/0113/65/000/011/0015/0016

AUTHOR: Brail'chuk, P. L. (Candidate of technical sciences);
Mironov, Ya. A.; Brail'chuk, P. L. // B

ORG: Tadzhik Polytechnic Institute (Tadzhikskiy politekhnicheskii institut)

TITLE: "Automobile test base in Central Asia

SOURCE: Avtomobil'naya promyshlennost', no. 11, 1965, 15-16

TOPIC TAGS: motor vehicle, geographic location, climatic condition,
highway network, performance test

ABSTRACT: The organization of motor-vehicle test bases in Central Asia in addition to the base of the Tadzhik Polytechnic Institute is proposed and discussed. The Tadzhikistan area is considered to be a good location for organization of road tests and proving grounds in the mountains at altitudes of 300 to 7500 m above sea level. The area is suitable for road tests requiring extremely low and high temperatures, varying from -52 C in winter to 43 C in summer. The authors presented a table where the data on temperatures, humidity and

Card 1/3 2

L 25970-66

ACC NR: AP6006515

0

precipitation are given for various locations of Turkestan, Uzbekistan and Tadzhikistan and compared it with similar data obtained for various asiatic and northern african countries. The road test can be conducted on high-mountain roads such as Dushanbe-Leninabad, Dushanbe-Khorog and Khorog-Osh. The road from Osh to Khorog is 724 km long crossing five Pamir mountain passes, one of which, the Ak-Baytal pass, is located 4800 m above sea level. The southern parts of Uzbekistan and Tadzhikistan are rather hot in summer. The maximum air temperature is of 43 to 47 C while the soil temperature reaches 75 C. The southern areas are characterized by frequent sand storms brought by the wind from Afganistan. There are times when the air is filled with sand particles up to 3 km for periods as long as 40 days. It is recommended that when conducting high-temperature tests the transportation facilities of the Uzbekistan area be used. As to the heavy road tests and laboratory investigations, it is proposed to organize a special test center in Dushanbe of Tadzhikskaya SSR as the best location geographically and the best suited climatically. The authors also describe the research laboratory organized at the Tadzhik Polytechnic Institute for testing engines and materials under high-altitude and high-temperature operating conditions.

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L 25970-66

ACC NR: AP6006515

The laboratory equipment is briefly described. The road tests (on the Osh-Khorog highway) and special investigations conducted in co-operation with the Moscow ZIL Plant were mentioned. Orig art. has: one table.

SUB CODE: 13 / SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 3/3 FW

ACC NR: AP6023213 (A)

SOURCE CODE: UR/0113/66/000/007/0030/3030

AUTHOR: Mironov, Ye. A.; Brail'chuk, P. L. (Candidate of technical sciences)

ORG: Tadzhik Polytechnic Institute (Tadzhikskiy politekhnicheskii institut)

TITLE: Versatile device for measuring the consumption of various liquid fuels

SOURCE: Avtomobil'naya promyshlennost', no. 7, 1966, 30

TOPIC TAGS: measurement, measuring apparatus, fuel consumption

ABSTRACT: A fuel-consumption measuring device (see Fig. 1) has been developed which permits the alternate measurement of several fuels using one glass retort (1). The device uses spheres of different capacities connected by tubes on which are mounted electric bulbs (2 and 3) and FS-K-2 photoresistors (4 and 5). The base of the retort is connected to a water container (6), and containers for each fuel to be measured are connected to the water container by a tube with a three-way valve (7), and to the engine utilizing the fuel by an electric fuel cock (8). The container (6) is filled with distilled water through a fill hole (9) and hermetically closed by a screw plug. Water and fuels

Card 1/3

UDC: 621.431.73:62—63.002.56

ACC NR: AP6023213

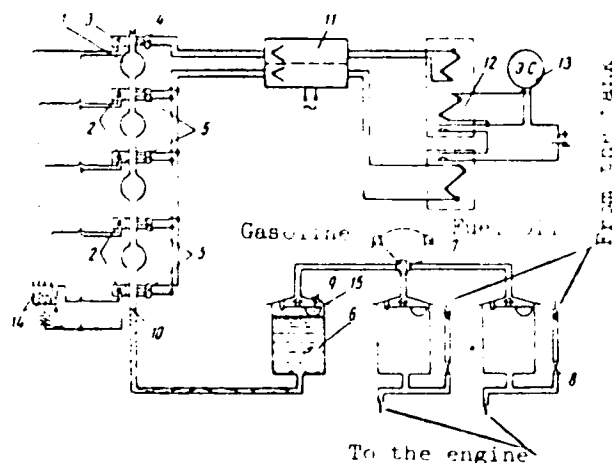


Fig. 1. Diagram of fuel-consumption measuring device

are adjusted to the same level in such a way that the water level will be 20—30 mm below the lowest photoresistor. By connecting a fuel container to the water container by operating a valve (7), the fuel from the tank fills the vessel and the air forces the water from the water container into the retort. After shutting off the cock (8) the engine begins to consume fuel from the container, in this way reducing the air pressure in the water container. This makes the water flow from the retort into the container, at which time a cork-like ball (10) shuts

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L 38795-66

ACC NR: AP6023213

in the retort, the final-measurement pulse from any of the photo-resistors (5) can be obtained relative to the desired dose; the latter can be fixed by switching on one of the toggle switches (14). The electric timer switches off the final-measurement pulse. Floats (15) prevent the entry of fuel into the water vessel or of water into the fuel vessels. The described device has been successfully operated for a prolonged time. Orig. art. has: 1 figure. [GE]

SUB CODE: 13 2/ SUBM DATE: none/ ATD PRESS: 5051

Card 3/3

АИР/УОУ, УОУ

137-58-5-8738

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 3 (USSR)

AUTHORS: Nikitin, Yu. I., Mironov, Ya. V.

TITLE: Results of the Employment of Hydrocyclones for Classification of Particles at a Concentrating Plant of the SUMZ (Rezultaty klassifikatsii promproduktov v gidrotsiklonakh na obogatitel'noy fabrike SUMZa)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 11-12, pp 42-43

ABSTRACT: In 1956, in connection with the change-over to finer grades of crushed products (up to 92-94 percent of the -74 μ class instead of 85-88 percent of the same class), measures were undertaken at the Sredneural (Central Ural) plant in order to adapt hydrocyclones (H) to operation in the capacity of classifiers. In section III of the plant H's were installed at the drains of bowl-type classifiers, as well as in conjunction with flotation machines for purposes of classification of flotation products. As indicated by operational results, the H's can effectively classify particles of both the -44 μ class and the -74 μ class.

1. Ores--Flotation 2. Ores--Processing

A. Sh.

Card 1/1

MIRONOV, Ye.A.

Modernizing the gearbox of bracket-milling machines. Stan.1
instr. 33 no.11:27-28 N '62. (MIRA 15:11)
(Milling machines--Technological innovations)

MIRONOV, Ye.A.

Securing tooth profile precision in shaving gear wheels.
Stan. 1 instr. 34 no.10:40-41 0 '63. (MIRA 16:11)

MIRONOV, Ye.F.; MODEL', D.M.

Intensification of the production of eyeglass lenses. Med.prom. 13
no.10:44-46 0 '59. (MIRA 13:2)

1. Leningradskiy optiko-mekhanicheskiy zavod.
(GLASS, OPTICAL)

PANKIN, Ivan Aleksandrovich; SEDUN, Andrey Vladimirovich; FEDOROV, V.I.,
dotsent, kand.tekhn.nauk, retsenzent; MIROMOV, Ye.I., inzh.,
red.; SHURYGINA, A.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[Practical work in geodesy] Prakticheskie raboty po geodezii.
Moskva, Izd-vo geodes.lit-ry, 1960. 232 p. (MIRA 13:)
(Surveying)

MIRONOV, Ye.I., inzh.

Strength calculation of the coupling of rods and crossheads.
[Trudy] MTU no.95:95-104 '60. (MIRA 14:8)
(Couplings) (Compressors)

VOLOBUYEV, G.P. , MIRONOV, Ye " , KARAVASHKIN, S.I., red , PETRENKO,
V.M. , tekhn red

[End-grab crane for stacking and loading logs in the lower
timber landings] Tortsovye greifery dlia shtabelirovaniia i
pogruzki drevesiny na nizhnikh skladakh Moskva. TSentr
in-t tekhn informatsii i exch. issi po lesnoi, bumazhnoi
i derevobrabatyvalushchei promysli . 1962 34 s

(MIRA 16:6)

(Lumbering Machinery) Cranes derricks etc

1. MIRONOV, YE. P., Eng.
2. USSR (600)
4. Steam Turbines
7. "Flapping" vibration of steam turbine blades, Elek. sta., 43,
No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

MIRONOV, E. P.

Electrical Engineering Abstracts
May 1954
Transformers

1918. "Galloping" of overhead line conductors.
E. P. MIRONOV *Elektrichestvo*, 1953, No. 11, 25-32.
In Russian.

"Galloping" of overhead line conductors is due to strong and gusty winds, thus differing from the steady harmless conductor vibrations due to non-turbulent winds across the line. Whereas the amplitudes of the latter vibrations are of the order of mm, those of galloping vibrations may approach 10 m. The author collected data, mostly cinematographic, over 6 years from many parts of the U.S.S.R. Qualitative relations between the range and direction of the wind speeds and the frequency and amplitude ranges of the galloping oscillations may be deduced from the films and from the records of the meteorological stations of the districts through which the lines pass. Particularly interesting are cases of coincidence of galloping and "ordinary" vibrations, because they show clearly that the latter are never harmonics of the former, and there is no actual superposition of the two. Galloping oscillations may produce travelling as well as standing waves, and simultaneously. Regions of the U.S.S.R. mostly affected are those of the southern republics, including the Urals and the Caucasus, and in bad conditions these vibrations may persist for days, the exciting wind speeds being of the order of 6-18 m/sec or higher. Ice-loads, especially asymmetrical ones, have considerable effect in maintaining the galloping oscillations once set up. Span length has also a marked influence. Only a certain number of spans take part in these oscillations, and mostly not adjacent ones. Recommendations are made for reducing the intensity of the phenomenon.

B. P. KRAUS

AID P - 4059

Subject : USSR/Power

Card 1/1 Pub. 26 - 17/33

Author : Mironov, E. P., Dotsent

Title : Discussion in the Rostov Branch of the All-Union
Scientific Society of Power Engineers and Technicians
on the extent of remote-control at substations.

Periodical : Elek. sta., 12, 45-47, 1955

Abstract : A report on two conferences held in the summer of 1955
on remote-control at 6-10, 35 and 100 kv substations.
The equipment needed was discussed in great detail. A
detailed account of suggestions made is given.

Institution : None

Submitted : No date

MARKOV, A.N., inzhener; KHARLAMOV, V.M., inzhener; IOFFE, Ye.F., inzhener;
MIROKOV, Ye.P., dotsent; ZEYLIDZON, Ye.D., inzhener.

Extent of telecontrol of substations. Elek.sta.26 no.12:43-49 D
'55. (MLRA 9:4)

1.Yaroslavskaya elektrenergeticheskaya sistema (for Markov).2.Glav-
noye upravleniye elektrestantsiy i elektrosetey Yuga (for Kharlamov).
3.Tekhnicheskoye upravleniye MES (for Zeylidzon).
(Electric substations) (Remote control)

MIROKOV, Ye.P., dotsent (Rostev-na-Doni)

Conference of readers of "Elektrichestvo" in Rostev-on-Don.

Elektrichestvo no.6:92-93 Je '56. (MLRA 9:9)

(Electric engineering--Periodicals)

MIRONOV, Ye.P., dotsent.

Scientific and technical meeting in Rostov-on-Don. Elektrichestvo
no.3:89-90 Mr '57. (MLRA 10:4)

1. Novocherkasskiy politekhnicheskiy institut.
(Rostov-on-Don--Electric power--Congresses)

MIRONOV, Ye.P.

For 660 volt tension. Prom.energ. 12 no.6:34-35 Je '57. Prom.
energ. 12 no.6:34-35 Je '57. (MIRA 10:7)

1. Predsedatel' elektrotekhnicheskoy sektsii Rostovskogo nezhsoblastnogo otdeleniya nauchno-tekhnicheskogo obshchestva energeticheskoy promyshlennosti.

(Electric power)

AUTHOR: Mironov, E.P.

104-2-37/38

TITLE: Second scientific-technical session on the operation of overhead high voltage transmission lines. (Vtoraya nauchno-tekhnicheskaya sessiya po ekspluatatsii vozdushnykh vysokovol'tnykh liniy elektroperedachi)

PERIODICAL: "Elektricheskie Stantsii" (Power Stations), 1957, Vol. 28, No.2, 95 - 96 (U.S.S.R.)

ABSTRACT: A brief account is given of a conference held in Rostov-Don in November, 1956, under the auspices of the organisation NTOEP and the Ministry of Power Stations which was attended by 340 delegates from local power systems, from design and research institutes, erection organisation, factories and colleges. There were a large number of reports which are described briefly; they include general surveys and discussion of the operations of lines at all voltages up to 400 kV. The authors included representatives of all the types of organisation that sent delegates. A film was shown on conductor galloping and on system protection.

AVAILABLE:

Card 1/1

KUDRYASHOV, S.A., inzh.; MIRONOV, Ye.P., dots.; MUSATOV, T.P., inzh.;
DVOSKIN, L.I., inzh.

Objective method of evaluating systems of electric connections.
Elektrichestvo no.4:74-75 Ap '58. (NIRA 1115)

1. Knybyshavskoye otdeleniye Elektroproyekta (for Kudryashov).
2. Novocherkasskiy politekhnicheskii institut (for Mironov).
3. Donbassenergo (for Musatov).
(Electric switchgear)

AVILOV-KARNAUKHOV, B.N.; BOGUSH, A.G.; BOLIYAYEV, I.P.; GIKIS, A.F.; DROZDOV,
A.D.; KAYALOV, G.M.; MIRONOV, Ye.P.; MIKHAYLOV, D.I.; SEKRETEV, D.I.;
SHEL'NIKOV, Ye.M.; CHERNYAVSKIY, F.I.

An outstanding scientist, on professor A.G.Beliavskii's 80th
birthday. Izv.vys.ucheb.zav.; elektromekh. 7 no.11:1399-1400
'64. (MIRA 18:3)

M 1:11:00
"The Fixed Focusing 1.5 Meter Cyclotron,"
by L. M. Nemenov, S. P. Kalinin, L. F. Kondrashov,
Ye. S. Mironov, A. A. Naumov, V. S. Panasyuk,
N. D. Fedorov, N. N. Khaldin and A. A. Chubakov,
Atomnaya Energiya, Vol 2, No 1, Jan 57, pp 36-41

Describes a 1.5-meter fixed frequency cyclotron. Construction on the cyclotron was completed in 1946. The first deuteron beam was obtained in 1947.

The following energies have been attained on the cyclotron: protons to 12.2 Mev, deuterons and hydrogen ions to 19.6 Mev, alpha-particles to 39.2 Mev, and nitrogen ions to 120 Mev.

The electromagnet is of rectangular cross section and weighs 330 tons. The core is made of "Armco" steel and has a 1,500-mm diameter. The magnet can develop a field strength up to 18,000 oersted.

5/20/18-2

The resonance system, high-frequency generator, slit sources for introducing ions, corrections to the magnetic field, the acceleration chamber, resonance lines, and the dees are described. Also discussed are the vacuum system and the deflector and focusing system. Modifications made in some of these components since original construction are noted.

At the present time, "research continues on developing a deflector with focusing properties. Methods for making a beam of charged particles monochromatic and for correcting the magnetic field to permit variable ion energy are also being developed."

The following members of the Scientific Research Institute of Electrical physical Equipment, Ministry of the Electrical Engineering Industry, are participating in the project: D. V. Yefremov, Ye. G. Komar, I. F. Malyukov, N. A. Monoszon, M. A. Gashev, and N. S. Strel'tsov. (U)

Mironov, Ye.S.

AUTHORS: Mironov, Ye.S., ^{120-5-3/35} Zvyagin, S.B., and Meshcherov, R.A.

TITLE: An Application of the External Beam of the Cyclotron (in Russian)
linzy dlya formirovaniya puchkov elektronov

PERIODICAL: Izvestiya Akademiya Nauk SSSR, No. 7, 1966, p. 1111-1114 (USSR)

ABSTRACT: An electrostatic focusing device for the external beam of the 1.5 MeV cyclotron (R-15) is described. The system, shown in Fig. 1, consists of two sets of parallel plates. The system focuses the beam in the vertical direction (focussing in the perpendicular direction is provided by a magnet (not described in this paper)). Fig. 2 shows the performance of the focusing device. The beam current density at the target is increased by a factor of 10. Particle density does not exceed 10^{10} . The current density at the target was $10 \mu A/cm^2$. v.i. Bernadovskiy, Ye.A. Minin and Yu.M. Protopopov assisted in this work. There are 2 diagrams and 1 Soviet reference.

SUBMITTED: December 21, 1966.

AVAILABLE: Library of Congress
Card 1/1